

# **CASEREVIEW**

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## **Notice of Independent Review Decision**

**[Date notice sent to all parties]:** January 14, 2015

### **IRO CASE #:**

### **DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:**

Repeat Magnetic Resonance Imaging (MRI) of the Lumbar Spine, as an Outpatient

### **A DESCRIPTION OF THE QUALIFICATIONS FOR EACH PHYSICIAN OR OTHER HEALTH CARE PROVIDER WHO REVIEWED THE DECISION:**

This physician is Board Certified in Physical Medicine and Rehabilitation with over 16 years of experience.

### **REVIEW OUTCOME:**

Upon independent review, the reviewer finds that the previous adverse determination/adverse determinations should be:

☒ Overturned (Disagree)

Provide a description of the review outcome that clearly states whether medical necessity exists for each of the health care services in dispute.

### **PATIENT CLINICAL HISTORY [SUMMARY]:**

The claimant is a male who was injured on xx/xx/xx. He was treated by multiple physicians who managed him conservatively with medication and physical therapy. He completed 12 sessions of PT. He did receive some improvement with PT, but the pain never completely went away. He was referred for a lumbar MRI in May of 2013 and underwent a left-sided ESI in August of 2013. The ESI resulted in 60% relief of his pain. Electrodiagnostic studies were performed on 09/06/13 and demonstrated findings consistent with a right L5 radiculopathy.

On May 15, 2013, MRI Lumbar Spine, Impression: 1. Diffuse diminished signal within the marrow on T1-weighted imaging. In certain places, lower than the adjacent discs and muscle signal. This could be the result of marrow reconversion or anemia. However, the extent of signal abnormality at least raises

the question of myeloproliferative disorder such as myeloma, leukemia, polycythemia vera, or myelofibrosis. 2. Central posterior protrusion, small noted at the L4-5 level. This extends to the right paracentral region and may cause inflammation of the descending L5 nerve root. 3. Central posterior protrusion is moderate in size at the L5-S1 level. Causes moderate canal stenosis. There may be inflammation of the descending S1 nerve roots.

On October 4, 2013, the claimant presented for evaluation of MMI at the recommendation of his treating physician. At that time, he complained of continued central low back pain and that his right leg had been "asleep" right down into his calf toward his foot since his ESI. On physical examination of his back, he had pain with lumbar extension at 5 degrees. ROM was restricted. Palpatory examination revealed tenderness and "jump" response to palpation of the paravertebral musculature. There was no dermatomal loss to sharp and dull sensation in the lower extremities. Deep tendon reflexes were symmetric at the knee at 1/4, but asymmetric at the ankles at 0/1. There was 2.5 cm of atrophy in the right calf at 40/42.5. Straight leg raising was tolerated to 80 degrees on the left with no symptoms. Straight leg raising was tolerated to 70 degrees on the right with back pain and thigh pain, no distal symptoms beyond the knee.

On February 10, 2014, the claimant presented in follow-up. It was reported he received 80-90% relief with pain just returning in the last 5 days from a right sided ESI L4-5 performed on 12/9/13. The pain was mid low back pain with no radiating leg pain, rate 7/10. It was reported that the claimant was doing really well. That his leg pain had resolved from the three epidural steroid injections. He had two on the right and one on the left. He still had significant pain with prolonged standing and lying down. No physical examination was recorded. Assessment: 1. Right sided L5 radiculopathy. 2. Significant disc herniation on the right at L4-5 with thecal sac compression. 3. Bilateral L5-S1 neuroforaminal stenosis secondary to facet joint hypertrophy with a disc protrusion centrally noted. 4. Bone spur, left greater than right at L4-5 with significant neuroforaminal stenosis. Plan: Start him on anti-inflammatory, Lodine. Trail of medial branch block if needed.

On May 27, 2014, the claimant presented for evaluation of MMI at the recommendation of his treating physician. At that time, the claimant stated that he was improved with the epidural steroid injections and no longer had numbness in his legs. He no longer had "spasms" at night. He still had intermittent low back pain which increased with lifting. He had returned to regular work activities. He was taking muscle-relaxing medicine as needed. On physical examination sensation was intact, he had good motor function, and deep tendon reflexes were 1/4 and symmetric at the knees and ankles. There was visible atrophy in the right calf which measured 40 cm compared to the left side at 42.5. SLR was negative bilaterally at 80 degrees. Palpatory examination revealed increased tissue turgor on the left.

On November 24, 2014, the claimant presented with pain in the back that radiates to buttock, no weakness or numbness. On physical examination of the back-NT and +SLR. Assessment: Lumbar radiculopathy. Plan: Refer to neurosurgery.

On December 5, 2014, UR. Rationale for Denial: The only recent report is dated 11/24/14 indicates that the claimant is having bad pain in back radiates to buttocks. No weakness or numbness. The exam states no distress back, NT and positive SLR, not qualified or quantified. The assessment was lumbar radiculopathy. There are no other clinical findings, no neurologic or orthopedic impairments or specific functional impairments that would require an MRI. Claimant did have a previous MRI and is being referred to a neurosurgeon who is requesting an MRI. However, without clinical examination findings the information submitted is insufficient to order an MRI.

On December 8, 2014, the claimant presented with complaints of numbness at the right buttocks, back of leg worse (was only mild at last visit), and right leg spasms getting worse. It was also reported the muscle relaxant caused a hung-over/groggy feeling. On physical examination of the back, NT with + SLR. Neuro: Good/equal strength and reflexes; decreased sensation in right LE area of L5-S1 dermatomes. Assessment: Lumbar radiculopathy-awaiting approval for MRI, PT has had ESI's in the past without lasting effect. Plan: MRI, refer to neurosurgery.

On December 18, 2014, UR. Rationale for Denial: evaluated the claimant on 12/08/14 for follow-up with mention of numbness at right buttocks, back of leg worse, right leg spasms getting worse, and muscle relaxant caused a hung-over and groggy feeling. Physical examination revealed positive SLR, decreased sensation in right lower extremity area of L5-S1 dermatomes, and otherwise physical exam was unremarkable. The treatment plan included MRI of the lumbar spine and refer to neurosurgery. There was also mention of the appeal for the lumbar MRI as the claimant suffered from lumbar radiculopathy and unable to perform his work duties as well as mention that he tried epidural steroid injections in the past, but the pain and numbness in his back and leg have recurred. While there was mention of the need for another lumbar MRI as the claimant suffered from lumbar radiculopathy and unable to perform his work duties as well as mention that he tried epidural steroid injections in the past, but the pain and numbness in his back and leg have recurred, there was no indication of an objective changing or worsening neurological condition occurring or new red flag findings occurring in the lumbar region on physical exam to support the need for a repeat MRI study. Therefore, this request is not medically reasonable or necessary.

**ANALYSIS AND EXPLANATION OF THE DECISION INCLUDE CLINICAL BASIS, FINDINGS, AND CONCLUSIONS USED TO SUPPORT THE DECISION:**

Determination: denial of repeat lumbar spine MRI is OVERTURNED /DISAGREED WITH since there is significant change in symptoms and signs suggestive of possible recurrent herniation and right nerve root irritation/impingement. Documented history and exam on 5/27/14 with no spasm

and only intermittent low back pain, sensation intact, "good" strength, symmetric reflexes, negative SLR, and regular work, this compares starkly with the most recent documentation on 12/8/14 with increased low back pain, numbness right buttock, spasms right leg, decreased function at work, "positive SLR" (although not qualified), and decreased sensation right L5 and S1. Therefore, the request for Repeat Magnetic Resonance Imaging (MRI) of the Lumbar Spine, as an Outpatient is found to be medically necessary.

PER ODG:

MRIs (magnetic resonance imaging)	<p>Recommended for indications below. MRI's are test of choice for patients with prior back surgery, but for uncomplicated low back pain, with radiculopathy, not recommended until after at least one month conservative therapy, sooner if severe or progressive neurologic deficit. Repeat MRI is not routinely recommended, and should be reserved for a significant change in symptoms and/or findings suggestive of significant pathology (eg, tumor, infection, fracture, neurocompression, recurrent disc herniation). (<a href="#">Bigos, 1999</a>) (<a href="#">Mullin, 2000</a>) (<a href="#">ACR, 2000</a>) (<a href="#">AAN, 1994</a>) (<a href="#">Aetna, 2004</a>) (<a href="#">Airaksinen, 2006</a>) (<a href="#">Chou, 2007</a>) Magnetic resonance imaging has also become the mainstay in the evaluation of myelopathy. An important limitation of magnetic resonance imaging in the diagnosis of myelopathy is its high sensitivity. The ease with which the study depicts expansion and compression of the spinal cord in the myelopathic patient may lead to false positive examinations and inappropriately aggressive therapy if findings are interpreted incorrectly. (<a href="#">Seidenwurm, 2000</a>) There is controversy over whether they result in higher costs compared to X-rays including all the treatment that continues after the more sensitive MRI reveals the usual insignificant disc bulges and herniations. (<a href="#">Jarvik-JAMA, 2003</a>) In addition, the sensitivities of the only significant MRI parameters, disc height narrowing and anular tears, are poor, and these findings alone are of limited clinical importance. (<a href="#">Videman, 2003</a>) Imaging studies are used most practically as confirmation studies once a working diagnosis is determined. MRI, although excellent at defining tumor, infection, and nerve compression, can be too sensitive with regard to degenerative disease findings and commonly displays pathology that is not responsible for the patient's symptoms. With low back pain, clinical judgment begins and ends with an understanding of a patient's life and circumstances as much as with their specific spinal pathology. (<a href="#">Carragee, 2004</a>) Diagnostic imaging of the spine is associated with a high rate of abnormal findings in asymptomatic individuals. Herniated disk is found on magnetic resonance imaging in 9% to 76% of asymptomatic patients; bulging disks, in 20% to 81%; and degenerative disks, in 46% to 93%. (<a href="#">Kinkade, 2007</a>) Baseline MRI findings do not predict future low back pain. (<a href="#">Borenstein, 2001</a>) MRI findings may be preexisting. Many MRI findings (loss of disc signal, facet arthrosis, and end plate signal changes) may represent progressive age changes not associated with acute events. (<a href="#">Carragee, 2006</a>) MRI abnormalities do not predict poor outcomes after conservative care for chronic low back pain patients. (<a href="#">Kleinstück, 2006</a>) The new ACP/APS guideline as compared to the old AHCPR guideline is more forceful about the need to avoid specialized</p>
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diagnostic imaging such as magnetic resonance imaging (MRI) without a clear rationale for doing so. ([Shekelle, 2008](#)) A new meta-analysis of randomized trials finds no benefit to routine lumbar imaging (radiography, MRI, or CT) for low back pain without indications of serious underlying conditions, and recommends that clinicians should refrain from routine, immediate lumbar imaging in these patients. ([Chou-Lancet, 2009](#)) Despite guidelines recommending parsimonious imaging, use of lumbar MRI increased by 307% during a recent 12-year interval. When judged against guidelines, one-third to two-thirds of spinal computed tomography imaging and MRI may be inappropriate. ([Deyo, 2009](#)) As an alternative to MRI, a pain assessment tool named Standardized Evaluation of Pain (StEP), with six interview questions and ten physical tests, identified patients with radicular pain with high sensitivity (92%) and specificity (97%). The diagnostic accuracy of StEP exceeded that of a dedicated screening tool for neuropathic pain and spinal magnetic resonance imaging. ([Scholz, 2009](#)) Clinical quality-based incentives are associated with less advanced imaging, whereas satisfaction measures are associated with more rapid and advanced imaging, leading Richard Deyo, in the Archives of Internal Medicine to call the fascination with lumbar spine imaging an idolatry. ([Pham, 2009](#)) Primary care physicians are making a significant amount of inappropriate referrals for CT and MRI, according to new research published in the *Journal of the American College of Radiology*. There were high rates of inappropriate examinations for spinal CTs (53%), and for spinal MRIs (35%), including lumbar spine MRI for acute back pain without conservative therapy. ([Lehnert, 2010](#)) Degenerative changes in the thoracic spine on MRI were observed in approximately half of the subjects with no symptoms in this study. ([Matsumoto, 2010](#)) This large case series concluded that iatrogenic effects of early MRI are worse disability and increased medical costs and surgery, unrelated to severity. ([Webster, 2010](#)) Routine imaging for low back pain is not beneficial and may even be harmful, according to new guidelines from the American College of Physicians. Imaging is indicated only if they have severe progressive neurologic impairments or signs or symptoms indicating a serious or specific underlying condition, or if they are candidates for invasive interventions. Immediate imaging is recommended for patients with major risk factors for cancer, spinal infection, cauda equina syndrome, or severe or progressive neurologic deficits. Imaging after a trial of treatment is recommended for patients who have minor risk factors for cancer, inflammatory back disease, vertebral compression fracture, radiculopathy, or symptomatic spinal stenosis. Subsequent imaging should be based on new symptoms or changes in current symptoms. ([Chou, 2011](#)) The National Physicians Alliance compiled a "top 5" list of procedures in primary care that do little if anything to improve outcomes but excel at wasting limited healthcare dollars, and the list included routinely ordering diagnostic imaging for patients with low back pain, but with no warning flags, such as severe or progressive neurologic deficits, within the first 6 weeks. ([Aguilar, 2011](#)) Owning MRI equipment is strongly correlated with patients receiving MRI scans, and having an MRI scan increases the probability of having surgery by 34%. ([Shreibati, 2011](#)) A considerable proportion of patients may be classified

incorrectly by MRI for lumbar disc herniation, or for spinal stenosis. Pooled analysis resulted in a summary estimate of sensitivity of 75% and specificity of 77% for disc herniation. ([Wassenaar, 2011](#)) ([Sigmundsson, 2011](#)) Accurate terms are particularly important for classification of lumbar disc pathology from imaging. ([Fardon, 2001](#)) ([Fardon, 2014](#)) Among workers with LBP, early MRI is not associated with better health outcomes and is associated with increased likelihood of disability and its duration. ([Graves, 2012](#)) There is support for MRI, depending on symptoms and signs, to rule out serious pathology such as tumor, infection, fracture, and cauda equina syndrome. Patients with severe or progressive neurologic deficits from lumbar disc herniation, or subjects with lumbar radiculopathy who do not respond to initial appropriate conservative care, are also candidates for lumbar MRI to evaluate potential for spinal interventions including injections or surgery. For unequivocal evidence of radiculopathy, see AMA Guides. ([Andersson, 2000](#)) MRI with and without contrast is best test for prior back surgery. ([Davis, 2011](#)) See also [ACR Appropriateness Criteria™](#). See also [Standing MRI](#). *Recent research:* More than half of requests for MRI of the lumbar spine are ordered for indications considered inappropriate or of uncertain value, pointing to evidence of substantial overuse of lumbar spine MRI scans. For family physicians, only 34% of their MRI scans were considered appropriate vs 58% of those ordered by other specialties. On the other hand, the vast majority of MRIs ordered for headaches, 83%, were deemed appropriate. ([Emery, 2013](#)) This study casts doubt on the value of post-op spinal imaging for patients with sciatica, because it could not distinguish those with a favorable clinical outcome from those with persistent symptoms. Disk herniation was visible in 35% of patients with a favorable outcome and in 33% with an unfavorable outcome, and nerve root compression was present in 24% of those with a favorable outcome and in 26% of those with an unfavorable outcome. They concluded that the MRI scan does not have any discriminatory power at all. Irrelevant findings have the potential to frighten patients and initiate cascades of unnecessary testing or intervention, with occasional risks. The study showed that neither a herniated disk nor the presence of scar tissue on MRI was associated with patient outcome, but these findings may lead to unnecessary further imaging and surgery. ([el Barzouhi, 2013](#)) A *JAMA* article on worsening trends for low back treatment found that there was an escalation in the use of MRI or CT, from 7.2% in 1999 to 11.3% in 2010, while imaging in the acute care setting provides neither clinical nor psychological benefit to patients with routine back pain. The general feeling among physicians was that patients may equate getting MRIs with being synonymous with good medical care, which could drive doctors to try to improve patient satisfaction. ([Mafi, 2013](#)) Clinicians should be aware of the diagnostic limitations of MRI as there is significant variability in the interrater and intrarater agreements of MRI in assessing different degenerative conditions of the lumbar spine. ([Fu, 2014](#)) The impact of nonadherent early MRI includes a wide variety of expensive and potentially unnecessary services, and occurs relatively soon post-MRI, with early MRI having as much as 55 times the likelihood of advanced imaging, injections, and surgery within six months post-MR. ([Webster, 2014](#))

**Indications for imaging -- Magnetic resonance imaging:**

- Thoracic spine trauma: with neurological deficit
- Lumbar spine trauma: trauma, neurological deficit
- Lumbar spine trauma: seat belt (chance) fracture (If focal, radicular findings or other neurologic deficit)
- Uncomplicated low back pain, suspicion of cancer, infection, other "red flags"
- Uncomplicated low back pain, with radiculopathy, after at least 1 month conservative therapy, sooner if severe or progressive neurologic deficit.
- Uncomplicated low back pain, prior lumbar surgery
- Uncomplicated low back pain, cauda equina syndrome
- Myelopathy (neurological deficit related to the spinal cord), traumatic
- Myelopathy, painful
- Myelopathy, sudden onset
- Myelopathy, stepwise progressive
- Myelopathy, slowly progressive
- Myelopathy, infectious disease patient
- Myelopathy, oncology patient

**A DESCRIPTION AND THE SOURCE OF THE SCREENING CRITERIA OR OTHER CLINICAL BASIS USED TO MAKE THE DECISION:**

- ☐ ACOEM- AMERICAN COLLEGE OF OCCUPATIONAL & ENVIRONMENTAL MEDICINE UM KNOWLEDGEBASE
- ☐ AHCPR- AGENCY FOR HEALTHCARE RESEARCH & QUALITY GUIDELINES
- ☐ DWC- DIVISION OF WORKERS COMPENSATION POLICIES OR GUIDELINES
- ☐ EUROPEAN GUIDELINES FOR MANAGEMENT OF CHRONIC LOW BACK PAIN
- ☐ INTERQUAL CRITERIA
- ☒ MEDICAL JUDGEMENT, CLINICAL EXPERIENCE, AND EXPERTISE IN ACCORDANCE WITH ACCEPTED MEDICAL STANDARDS
- ☐ MERCY CENTER CONSENSUS CONFERENCE GUIDELINES
- ☐ MILLIMAN CARE GUIDELINES
- ☒ ODG- OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES
- ☐ PRESSLEY REED, THE MEDICAL DISABILITY ADVISOR
- ☐ TEXAS GUIDELINES FOR CHIROPRACTIC QUALITY ASSURANCE & PRACTICE PARAMETERS
- ☐ TEXAS TACADA GUIDELINES
- ☐ TMF SCREENING CRITERIA MANUAL
- ☐ PEER REVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)
- ☐ OTHER EVIDENCE BASED, SCIENTIFICALLY VALID, OUTCOME FOCUSED GUIDELINES (PROVIDE A DESCRIPTION)